



Advanced Digital Encryption (ADE) Tool

What ADE Does:

Rapidly **encrypts** (scrambles) and **decrypts** (unscrambles) computer files using a secret key code.

ADE Applications:

For all types of encryption, but ideally suited for **highly-secure, on-the-fly**, encryption in **Wireless Networks** and **Portable Computing Devices**.

- **Wireless Networks** typically have **fast**, but **weak**, encryption that is easily compromised
 - **Hackers** have **broken** the security for Wireless Networks (802.11b/WEP)
- **Portable Computing Devices** can be **lost** or **stolen** and their files compromised.

MTL's ADE is Unique:

- Advances the state-of-the-art in encryption **speed** and **security** for the above applications. ADE is the only tool that provides **both fast and strong encryption** for real-time applications
- ADE is also **storage efficient, robust** and **convenient**.

ADE's basic technology was developed by AFRL Rome Research Site and SUNY, Binghamton and licensed to MTL Systems.

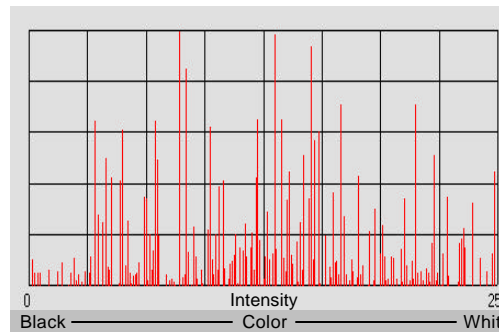
Original Image



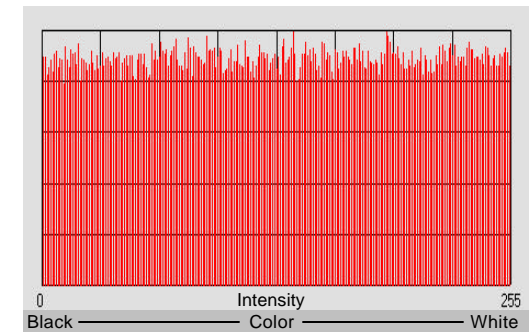
Encrypted Image



Pixel Histogram
Original Image



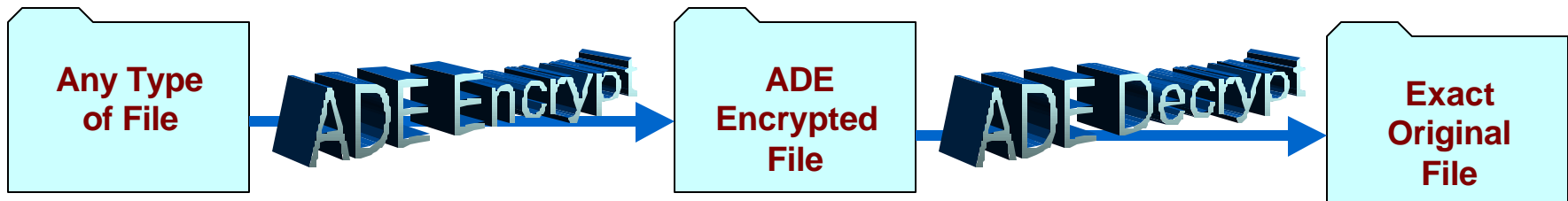
Pixel Histogram
Encrypted Image





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ADE Features	ADE Benefits
Speed - For a 400 MHz processor, ADE encryption nominally requires only 1-2 sec to process (encrypt or decrypt) a 1MB file.	High Speed makes on-the-fly encryption/decryption practical
Security - ADE-encrypted files have no header information and no recognizable data structure . Brute-force methods to break ADE encryption codes would take a massively parallel, 100-BIPS processor 10^{112} years .	Strong Security makes on-the-fly encryption/decryption safe
Storage - Requires Data Storage no larger than original file size .	Efficient Storage is ideal for limited-memory devices (Wireless Phones, PDAs, etc)
Versatility - Encrypts any file type , including: text, spreadsheet, database, image, drawing, video, sound, and executable files.	Robust - Handles all user applications
Pre-Processing - Requires no file decompression or format conversion	Convenient - Requires no pre-processing



ADE H/W-S/W Configuration: **PC-based** under Linux or any **Windows** O/S; written in C & Visual Basic.

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